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ABSTRACT

This inquiry determines the degree of relationship between observed faculty personal characteristics and judged teaching effectiveness. Students in a liberal arts college rated faculty on two typical teaching evaluation instruments and on a semantic differential form. Data came from 1,500 student judgments on 108 faculty (86 percent). Factor analysis, analysis of variance, and multiple regression analyses showed that (a) personality and teaching effectiveness were highly correlated (.77), (b) factors derived from the semantic differential predicted a multiple R= 0.88 for teaching effectiveness, and (c) dynamic, pragmatic, amicable, and highly intellectually competent faculty received statistically significantly higher teaching competence ratings than did professors tending toward the opposites of these traits. The findings suggest that improvement of teaching effectiveness may depend more on changes related tc personality factors than on those involving classroom procedures. (Author)

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PERSONAL CHARACTERISTICS AND TEACHING EFFECTIVENESS OF COLLEGE FACULTY

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Introduction

Calls for improved college teaching and a proper evaluation of faculty performance have a long history (Jordan, 1906; Wilson, 1942; Eble, 1970). Apparently, however, the pleas have failed to produce the desired results Today the cries are as intense as ever. They come from students feeling deprived of stimulating instruction, from external sources demanding accountability of a professor's work, and from administrators and peers facing difficult academic staffing decisions. A tight and constricted job market focuses attention on promotion procedures, especially with respect to awarding tenure. Teaching effectiveness is a principal criterion in the process of faculty evaluation. Hence, insights into factors affecting this criterion are needed for many good reasons. This study supplies data relevant to the assessment of faculty performance. The research examines the relationships among different dimensions of teaching behavior in terms of student ratings of effectiveness and develops predictive criteria concerning student perceptions of effective college teachers.

A major problem in evaluating teaching effectiveness stems from a lack of agreement on appropriate criteria (Mitzel, 1960: 1481; McKeachie, 1969; Hildebrand and Wilson, 1970). Part of this difficulty relates to research techniques which have not adequately established the relationship between personality characteristics and classroom teaching behaviors. This study is based on the conceptual premise that effective college teaching depends

less on faculty behaviors directed toward the functional management of a class and more on personality factors which students perceive to be relevant in the teaching/learning environment. Stated somewhat differently, an instructor's skill in organizing and managing his course requirements is a necessary but not sufficient condition for achieving effectiveness in the classroom. It is the personal qualities which the instructor as an individual brings to the educational setting that spell the difference between success and failure as a teacher, at least insofar as student judgments are concerned.

The study was conducted at a typical liberal arts college. Data were obtained on two student evaluation forms and a semantic differential instrument for 108 of the 125 member faculty. The college's Office of Institutional Research (IR) provided one set of student-judged teaching effectiveness scores from the institution's ongoing practice of evaluating instruction. The IR instrument assessed presentation of course content and instructor's attitude toward students. Careful inspection of the items indicated a definite emphasis on the teacher's ability to develop positive interaction with students through the medium of the discipline. Students' ratings on this form reflected their perceptions of the instructor's skill in communicating subject matter and, in addition, his proficiency in facilitating the interaction process. In most cases instructors were rated by about 85% of their students.

A student-run and published evaluation of faculty teaching effectiveness (Pequod) gave a second measure. Although similar in style to the IR form, Pequod differed substantially in content. This instrument focused almost exclusively on functional aspects of the course, including concerns

about fairness, relevance, and utility of the requirements. In this case, students' ratings were interpreted primarily as assessments of the instructor's organizational ability and the degree to which the legitimate functions of the classroom were carried out. The average number of raters per instructor for Pequod was 75.

The third instrument on which students judged faculty was a semantic differential (Osgood). This measure was made up of 30 bipolar adjective-pair items descriptive of various personality characteristics. The form mixed adjective-pairs directly related to teaching (logical/illogical, organized/disorganized) with those more associated with personal traits (bold/timid, warm/cold). Approximately 850 students rated faculty on the Osgood.

The three measures--IR and Pequod on teaching effectiveness and Osgood for personal characteristics--were obtained over a one and one-half year interval. While some raters participated in all three assessments, others responded to only one of the instruments. Therefore, the three assessments of faculty possess appreciable independence both over time and among raters.

In addition to descriptive statistics on each instrument, correlation coefficients , factor analysis, one-way analysis of variance, and multiple regression analyses of the data were obtained. The level of significance for F and t-ratios was set at .05.

Results

1. In order to better interpret the Osgood criterion scores, faculty ratings on this instrument were examined using the factor analytic technique.

Results are reported in Table 1. The 30 items comprising this criterion were factor analyzed using a principal-axis analysis with orthogonal rotation. A five-factor solution provided four distinct personality components; the fifth factor produced no item loadings above the cut-off score.

A cut-off score of .45 on factor loadings was used to determine which items should be retained and which eliminated from the factors. No item appears in more than one factor.[1] Factor scores were computed for each instructor by summing his mean student ratings on each of the items loaded at or above .45 on the various factors.

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Insert Table 1 about here

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Factor I was labeled "Personal Potency." Loadings on the eight items ranged from .84 to .54, the highest being those of aggressiveness, boldness, and extroversion. The personally potent teacher is seen as one who is highly attractive and who, by virtue of this attractiveness, is able to exert considerable influence over his students. The picture is that of a dynamic, out-going individual, who, at the same time, communicates well with students and has a relaxed attitude. The importance of these last two items must not be overlooked; without such tempering qualities, the profile would be one of brashness, bordering on the obnoxious--hardly the description of an influential individual.

The two items comprising Factor II were labeled "Pragmatism." Factor loadings in the mid-seventies were obtained for both the practicable/impractical and predictable/unpredictable items. This factor appears to indicate

a "common-sense" or "down-to-earth" dimension to the teaching situation which students perceive as an important ingredient in effectiveness.

The third factor, "Amicability," contains items which describe an individual in terms of his friendliness and goodwill toward others. Interpersonal sensitivity is apparent in this pattern of traits. Sensitiveness, openmindedness, and acceptance on the part of faculty are especially important to students as reflected in the factor loading of .76, .73, and .72 respectively. Reasonableness and graciousness, although less heavily loaded, are also attributes desirable for effective interpersonal relationships.

Finally, Factor IV is made up of items indicative of a faculty member"s "Intellectual Competency." Clearly expertise, knowledge, and wisdom are essential aspects of this concept which also includes decisiveness and stability as well as rational and sensible behavior.

In considering the meaning of these derived factors, it is important to point out that their interpretation is based essentially on subjective judgment. Nevertheless, the factors obtained from this Osgood instrument appear to resemble factors reported in previous research studies. Although each study uses its own unique nomenclature and thus introduces some ambiguity, certain overlapping of the terms can be observed. Some examples are listed below.

Factor I. Personal Potency.

Systematized Energy (Nunnally, Thistlethwaite, and Wolfe, 1963)

Lethargy vs. Energy (Solomon, Bezdek, and Rosenberg, 1964)

Teaching Dynamism (Gulo, 1966)

Potency (Schein and Hall, 1967)

Factor II. Pragmatism.

Organization Behavior (Gibb, 1955)

Structure (Isaacson, McKeachie, and Milholland, 1963; Deshpande, Webb, and Marks, 1970)

Factor III. Amicability.

Empathy (Smalzried and Remmers, 1943; Coffman, 1954)

Empathetic (Bendig, 1955)

Friendly Democratic Behavior (Gibb, 1955)

Warmth-Coldness (Solomon, Bezdek, and Rosenberg, 1964)

Acceptance-Change (Gulo, 1966)

Supportiveness (Schein and Hall, 1967)

Rapport (Deshpande, Webb, and Marks, 1970)

Factor IV. Intellectual Competency.

Academic Emphasis (Gibb, 1955)

Competence (Bendig, 1955)

Skill (Isaacson, McKeachie, and Milholland, 1963)

Competence (Schein and Hall, 1967)

Content Mastery (Deshpande, Webb, and Marks, 1970)

Analytic-Synthetic (Hildebrand and Wilson, 1970)

The apparent commonality of elements within the various factor groupings provides confidence that relevant teacher behavior patterns have been identified, at least to the extent that these can be subjectively determined.

2. Although the criteria assessed different aspects of teaching behavior, they were significantly intercorrelated, with the greatest degree of association occuring between the Osgood and Pequod instruments.

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Insert Table 2 about here

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These results are similar to those obtained by Maslow and Zimmerman (1956) who obtained a correlation of .76 between student ratings of instructors "as a teacher" and "as a personality."

In interpreting the significance of the intercorrelations in Table 2, it should be noted that the possibility of contamination from halo effect (Cronbach, 1960), a common problem in many studies, is not an issue here. In this study, methodological procedures made it impossible for any systematic bias to carry over from one instrument to another since each of the instruments was administered to different populations of students, under different conditions, and at different points in time.

Critics of student evaluation frequently cite student grades as a source of halo effect in producing biased judgments of effectiveness. However, previous research has shown that grades have little direct relationship to student ratings (Remmers, 1930; Elliott, 1950; Hudelson, 1951; Voeks and French, 1960; Lehmann, 1966; Rayder, 1968; Caffrey, 1969). Results obtained in this study are similar to those of other researchers, namely, that the grades an instructor gives and the student evaluations he receives are not related. Correlation of average grade each instructor assigned with instructor mean IR rating using the Spearman rho formula produced a correlation coefficient of .13.

Costin, Greenough, and Menges (1971) review other assumed relationships and find low order relations. It was therefore concluded that the significant intercorrelations among the three criteria were not the result

of biased student judgments but that they did, in fact, reflect a strong interrelationship among three different dimensions of teacher behavior.

3. In order to study the relationships between the Osgood factors and the teaching effectiveness criteria, analysis of variance tests were made comparing high and low groups on each factor to the IR and Pequod ratings. High groups contained factor scores above the mean; low groups contained factor scores at or below the mean. The decision to divide the scores into high-low groups resulted from uncertainty about the meaning of the intervals between individual raw scores. Somewhat greater confidence could be placed in observations based on differences between groups rather than differences among individuals. Table 3 reports the results of the analyses.

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Insert Table 3 about here

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These results show very large and statistically significant differences between the high and low groups for every factor in relation to the mean ratings of effectiveness on both the IR and Pequod. It is therefore concluded that meaningful patterns of social behavior have been identified, and these patterns appear to be directly related to students' perceptions of teaching competency.

4. In order to ascertain more specifically the relationship of the Osgood factors to the other criterion measures of effectiveness, multiple regression analyses were carried out. The following results were obtained: Predicting to Pequod, the multiple correlation (R) for the four factors was .88. The step-wise values of the multiple correlation of R were

Intellectual Competency, .78; Pragmatism, .83; Personal Potency, .87 Amicability, .88. Predicting to IR, the multiple correlation was .80. The step-wise values of the multiple correlation were Intellectual Competency, .74; Personal Potency, .79; Pragmatism, .80; Amicability, .80. In both cases, the resulting F-ratios were statistically significant beyond the .01 level.

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Insert Table 4 about here

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These findings are important for they demonstrate the possibility of predicting a faculty member's success in the classroom on the basis of his perceived personality characteristics.

Discussion and Conclusions

While correlation analysis is not causal and an uncertainty remains as to whether or not faculty who are dynamic, pragmatic, amicable, and highly intellectually competent are judged to possess these attributes because of the way they teach, or vice versa, the evidence leans toward the importance of the personal characteristics as the cause of the perceived instructional effectiveness. If this interpretation is correct, colleges wishing to improve teaching performance face a difficult problem. While not known from a longitudinal study, it nonetheless seems reasonable that the personality characteristics are more enduring and therefore more difficult to change than are the functional behaviors typically associated with good teaching--clearness of assignments, fairness of tests, good use of class time, and the like (items from IR and Pequod). A professor wishing to improve his perceived effectiveness may best begin on personal attributes rather than focusing his energy on course functions and

activites which, on the surface seem more readily open to alteration. Similarly, when a college selects a new colleague from a pool of recruits, the findings suggest careful attention should be paid to "extra" professional characteristics, if the institution places a high value on student judgment of teaching.

As for future research, a study needs to be conducted on a larger and more diverse population of faculty so as to test the degree to which generalizations apply. Also, both student-perceived teaching effectiveness and faculty personal characteristics need to be related to actual student goal attainment. Too few studies link the two. A few exceptions can be noted (Solomon, Rosenberg, and Bezdek, 1964; Cohen and Berger, 1970; McKeachie, Lin, and Mann, 1971; Rodin and Rodin, 1972; Granzin and Painter, 1973; Gessner, 1973). Even here, however, contradictory results (correlations of +.77 to -.75) create uncertainties as to the actual relationship between student-rated teaching effectiveness and accomplishment in courses. Confusions in this critical area contribute to low correlations between administrator, peer, self, and student ratings of teaching effectiveness (Blackburn and Clark, 1974). Furthermore, such ambiguities undoubtedly heighten faculty stress and thereby impede progress toward the very goal they desire, increased teaching effectiveness (Clark and Blackburn, 1973). Research is urgently needed on teaching effectiveness and the evaluation of faculty job performance if substantive improvement is to be made in the quality of the educational process.

References

Bendig, A. W. Ability and personality characteristics of introductory psychology instructors rated competent and empathetic by their students. Journal of Educational Research, 1955, 48, 705-709.

Blackburn, R. T., & Clark, M. J. An assessment of faculty performance: some correlates between administrator, colleague, student, and self ratings. Sociology of Education, 1974 (in press).

Caffrey, B. Lack of bias in student evaluations of teachers. Proceedings, 77th Annual Convention, American Psychological Association, 1969, 4, 641-642.

Clark, M. J., & Blackburn, R. T. Faculty performance under stress. Conference Proceedings. Philadelphia: Temple University Press, 1973.

Coffman, W. E. Determining students' concepts of effective teaching from their ratings of instructors. Journal of Educational Psychology, 1954, 45, 277-286.

Cohen, S. H., & Berger, W. G. Dimensions of students' ratings of college instructors underlying subsequent achievement on course examinations. Proceedings, 78th Annual Convention, American Psychological Association, 1970, 605-606.

Costin, F., Greenough, W. T., & Menges, R. J. Student ratings of college teaching: reliability, validity, and usefulness. Review of Educational Research, 1971, 41, 511-535.

Cronbach, L. J. Essentials of psychological testing. (2nd ed.) New York: Harper & Brothers, 1960.

Deshpande, A. S., Webb, S. C., & Marks, E. Student perceptions of engineering instructor behaviors and their relationships to the evaluation of instructor and courses. American Educational Research Journal, 1970, 289-305.

Eble, K. E. The recognitic and evaluation of teaching. Salt Lake City: Project to Improve College Teaching, 1970.

Elliott, D. N. Characteristics and relationships of various criteria of college and university teachings. Purdue University Studies in Higher Education, No. 70, 1950, 5-61.

Gessner, P. K. Evaluation of instruction. Science, 1973, 180, 566-570.

Gibb, C. A. Classroom behavior of the college teacher. Educational and Psychological Measurement, 1955, 15, 254-263.

Granzin, K. L., & Painter, J. J. A new explanation for students' course evaluation tendencies. American Educational Research Journal, 1973, 10 (2), 115-124.

Gulo, E. V. University students' attitudes as measured by the semantic differential. The Journal of Educational Research, 1966, 60 (4), 152-158.

Hildebrand, M., & Wilson, R. C. Effective university teaching and its evaluation. California University (Berkeley): Center for Research and Development in Higher Education, 1970. (ED 039 860)

Hudelson, E. The validity of student rating of instructors. School and Society, 1951, 73, 265-266.

Isaacson, R. L., McKeachie, W. J., & Milholland, J. E. Correlation of teacher personality variables and student ratings. Journal of Educational Psychology, 1963, 54 (2), 110-117.

Jordan, H. S. To what extent should the university investigator be freed from teaching. Science, 1906, 129-145.

Lehmann, I. J. The college faculty as perceived by graduates and non-graduates. Journal of Educational Measurement, 1966, 3, 169-173.

Maslow, A. H., & Zimmerman, W. College teaching ability, scholarly activity, and personality. Journal of Educational Psychology, 1956, 47, 185-189.

McKeachie, W. J. Teaching tips--a guidebook for the beginning college teacher. (6th ed.) Lexington, Mass.: D. C. Heath and Company, 1969.

McKeachie, W. J., Lin, Y., and Mann, W. Student ratings of teacher effectiveness: validity studies. American Educational Research Journal, 1971, 8 (3), 435-445.

Mitzel, H. E. Teacher effectiveness. In C. W. Harris (Ed.), Encyclopedia of Educational Research. New York: The Macmillan Co., 1960.

Nunnally, J. C., Thistlethwaite, D. L., & Wolfe, S. Factored scales for measuring characteristics of college environments. Educational and Psychological Measurements, 1963, 23, 239-248.

Rayder, N. F. College student rating of instructors. Journal of Experimental Education, 1968, 37, 76-81.

Remmers, H. H. To what extent do grades influence the ratings of instructors? Journal of Educational Research, 1930, 21, 314-316.

Rodin, M., & Rodin, B. Student evaluations of teachers. Science, 1972, 177, 1164-1166.

Rummel, R. J. Applied factor analysis. Evanston: Northwestern University Press, 1970.

Schein, E. H., & Hall, D. T. The student image of the teacher. The Journal of Applied Behavioral Science, 1967, 3, 305-337.

Smalzried, N. F., & Remmers, H. H. A factor analysis of the Purdue rating scale for instructors. The Journal of Educational Psychology, 1943, 34, 363-367.

Solomon, D., Bezdek, W. E., & Rosenberg, L. Dimensions of teacher behavior. The Journal of Experimental Education, 1964, 33, 23-40.

Solomon, D., Rosenberg, L. & Bezdek, W. E. Teacher behavior and student learning. The Journal of Educational Psychology, 1964, 55, 23-30.

Voeks, V. W., & French, G. M. Are students' ratings of teachers affected by grades? Journal of Higher Education, 1960, 330-334.

Wilson, L. The academic man. New York: Oxford University Press, 1942.

Footnote

[1]One exception was made in the case of the adjective pair, strong/weak. This item loaded on Factor I at .67 and on Factor IV at .50. It was included as a component of Factor I because of the relatively greater magnitude of the loading on that factor as well as the apparent conceptual consistency of the item within Factor I.

TABLE 1

Factors and Factor Loadings of Student Perceptions of Faculty on the Osgood Effectiveness Rating (Number of Faculty=75; Number of Student Raters=850)

ITEM	Personal Potency I	Pragmatism II	Amicability III	Intellectual Competency IV
Bold/Timid	.84	.25	.04	.09
Aggressive/Unaggressive	.82	.18	.13	.12
Extroverted/Introverted	.80	.15	.28	.10
Active/Passive	.76	.07	.25	.34
Energetic/Tired	.73	.04	.17	.16
Strong/Weak	.67	.19	.22	.50
Good/Poor Communicator	.57	.30	.22	.41
Relaxed/Tense	.54	.09	.30	.31
Practical/Impractical	.24	.75	.22	.28
Predictable/Unpredictable	.11	.73	.00	.12
Sensitive/Insensitive	.12	.13	.76	.23
Open-Minded/Closed-Minded	.29	-.01	.73	.24
Accepting/Rejecting	.27	.17	.72	.14
Reasonable/Unreasonable	.41	.34	.53	.28
Gracious/Crude	-.01	.22	.46	.26
Expert/Ignorant	.10	.17	.20	.85
Knowledgeable/Unknowledgeable	.13	.08	.18	.77
Wise/Foolish	.16	.33	.23	.70
Decisive/Indecisive	.44	.42	.03	.64
Stable/Unstable	.21	.28	.25	.59
Rational/Irrational	.27	.37	.28	.52
Sensible/Not Sensible	.18	.39	.29	.47
Cumulative Proportion of Total Variance[a]	.52	.60	.66	.70

[a]Based on all 30 items. Not shown above are 8 items which were omitted either because they had high multiple loadings on two or more factors or because their loadings on all four factors were less than .45 (see Rummel, 1970:441).

Table 2

Intercorrelations of Criterion Measures based on Mean Student Ratings of Faculty Effectiveness

Criterion Measures	IR		Osgood	
	N	r	N	r
IR				
Osgood	45	.77*		
Pequod	63	.73*	75	.86*

*$p < .01$

TABLE 3

Summary of Analyses of Variance of Osgood Factors and Faculty Effectiveness Ratings

Factor	Measures of Effectiveness					
	IR			Pequod		
	Number	Faculty Mean Rating[a]	Standard Deviation	Number	Faculty Mean Rating[a]	Standard Deviation
I. Personal Potency:						
Group 1--Low	20	6.45	.85	35	26.50	3.73
Group 1--High	25	7.40	.42	40	31.60	3.41
F-ratio		22.40			36.40	
II. Pragmatism:						
Group 1--Low	17	6.67	.79	30	26.52	4.30
Group 2--High	28	7.17	.74	45	31.10	3.32
F-ratio		4.30			26.20	
III. Amicability:						
Group 1--Low	23	6.67	.83	40	26.91	3.81
Group 2--High	22	7.30	.62	35	31.97	3.25
F-ratio		7.79			36.60	
IV. Intellectual Competency						
Group 1--Low	17	6.27	.79	30	26.17	3.60
Group 2--High	28	7.41	.41	33	31.98	2.93
F-ratio		37.60			57.50	

Note.--All F-ratios are statistically significant beyond the .001 level.

[a]Maximum possible scores: IR=9.00; Pequod=40.00.

Table 4

Step-wise Regression Analyses Using Mean Factor Ratings to Predict to Mean Ratings of Teaching Effectiveness

Step No.	Factor	F-level	Coef. of Mult Regr.	Coef. of Deter.	Incr. in Coef. of Deter.
	Prediction to Pequod Ratings Number of Faculty=75				
1	IV. Intellectual Competency . .	115.12	.78	.61	.61
2	II. Pragmatism . .	21.37	.83	.70	.08
3	I. Personal Potency . . .	17.63	.87	.76	.05
4	III. Amicability .	4.68	.88	.77	.01
	F-ratio: 60.39*				
	Prediction to IR Ratings Number of Faculty=45				
1	IV. Intellectual Competency. .	53.17	.74	.55	.55
2	I. Personal Potency . . .	9.06	.79	.63	.07
3	II. Pragmatism . .	1.17	.80	.64	.01
4	III. Amicability .	.03	.80	.64	.00
	F-ratio: 18.00*				

*$p < .01$